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July 8, 1992

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BY HAND DELIVERY

Ms. Donna R. Searcy,
Secretary
Federal Communications Commission
1919 M Street, N.W. Room 222
Washington, DC 20554

RE: ET Docket No. 92-28 (File No. PP-31).

Dear Ms. Searcy:

Transmitted herewith for filing with the Commission on behalf of Loral Qualcomm Satellite Services, Inc. are an original and four copies of its "Response to TRW and Ellipsat Oppositions to Supplement to Request for Pioneer's Preference."

Should there be any questions regarding this matter, please communicate with this office.

Very truly yours,

William D. Wallace
(Member of Florida Bar only)

Enclosures

ORIGINAL

Before The
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the matter of:	)	
	)	
LORAL QUALCOMM SATELLITE SERVICES, INC.	)	ET Docket No. 92-28
	)	
	)	File No. PP-31
Request for a Pioneer's Preference with regard to Its Application for Authority To Construct GLOBALSTAR, a Low-Earth Orbit Satellite Communications System	)	

RESPONSE TO TRW AND ELLIPSAT OPPOSITIONS TO SUPPLEMENT TO REQUEST FOR PIONEER'S PREFERENCE

Pursuant to Section 1.45 of the Commission's Rules, Loral Qualcomm Satellite Services, Inc. ("LQSS"), by its attorneys, hereby responds to the oppositions filed by TRW, Inc.[1/] and Ellipsat Corporation[2/] to LQSS's Supplement to its Request for Pioneer's Preference ("Supplement"). Both TRW and Ellipsat have requested that the Commission not consider the Supplement filed by LQSS with respect to its request for a pioneer's preference for Globalstar, an innovative low-earth orbit (LEO) satellite communications system which would provide voice, data and radiolocation services in the RDSS bands.

1/ TRW filed a letter to Thomas P. Stanley from Norman P. Leventhal on June 16, 1992 ("TRW Letter"), requesting the Commission "to reject the June 12 Loral Supplement to Request for Pioneer's Preference."

2/ Ellipsat filed a "Motion to Strike" on June 25, 1992 ("Ellipsat Motion").

I. THE MATERIALS INCLUDED IN THE SUPPLEMENT DIRECTLY SUPPORT LQSS'S REQUEST FOR A PIONEER'S PREFERENCE.

LQSS's Supplement includes recently-issued patents and test results demonstrating that Globalstar is a technically feasible communications system incorporating innovative technology and that technology incorporated into Globalstar has been in development since the mid-1980s, preceding the development of other proposed RDSS LEO systems. Contrary to the claims of TRW and Ellipsat, the Commission itself has recognized the relevance of such information, and therefore, the supplemental materials should be considered for LQSS's request.

A. The Types of Material Submitted by LQSS Have Relevance in Evaluating its Request for a Pioneer's Preference.

Pioneer's preferences are awarded for "both a new radio service and a new technology used to improve an existing service by significantly improving spectrum efficiency." Establishment of Procedures to Provide a Preference to Applicants Proposing an Allocation for New Services, 6 FCC Rcd 3488, 3492, ¶ 37 (1991) ("Pioneer's Preference Order") (emphasis supplied). Not only is LQSS proposing new and enhanced radio services in the RDSS bands, the patented innovations described in the Supplement also reflect technology which would be used "to improve an existing service [RDSS] by significantly improving spectrum efficiency."

Specifically, the seven patents included in the Supplement (Exhibits A through G) detail innovative CDMA spread spectrum techniques for reuse of spectrum. Globalstar's innovative CDMA system would provide new and enhanced communications services by

greatly increasing the call capacity available for the spectrum in the RDSS bands and by concurrently improving the reliability of the signals. The methodology for accomplishing this increase in efficiency and reliability is described in the Supplement and has been discussed in other filings by LQSS with regard to its application for Globalstar. Moreover, the results of several CDMA field tests (Exhibits H, I and J) were also provided in the Supplement; these tests confirmed the efficiency and reliability of the CDMA system proposed for use in Globalstar.

The patents and test results relate directly to the development of Globalstar and/or describe technology which would be incorporated into Globalstar.[3/] The Patent & Trademark Office has already determined that these technologies are novel and innovative, and, therefore, the materials in the Supplement support LQSS's request for a pioneer's preference.

3/ The Commission's recognition of the relevance of patents, see Pioneer's Preference Order, 6 FCC Rcd at 3490, ¶ 19, contradicts TRW's claim that "the Commission has already rejected patents, patent claims, patent excerpts, patent intentions, or any other kind of similar items, as not being relevant to the pioneer's preference matter." TRW Letter, at 2.

Ellipsat's claim that "system concepts" are not patentable is also not completely accurate, as evidenced by Exhibit A in LQSS's Supplement. It should also be noted that Ellipsat itself has filed an application for what appears to be a "system patent." See Letter of Jill Abeshouse Stern (filed June 17, 1992) (attaching abstract for patent application "for non-geostationary orbit satellite constellation").

B. The Patent Materials Relate to the Globalstar System.

Ellipsat claims that the patent materials are not related to LEO satellite systems generally or Globalstar in particular. Ellipsat Motion, at 2. This is incorrect.

LQSS has requested a pioneer's preference based on the use of innovative CDMA techniques for a LEO satellite system and for other innovative technology. See Request for Pioneer's Preference (filed Nov. 4, 1991). Exhibit A (U.S. Patent No. 4,901,307) to the Supplement is a broad system patent describing the use of CDMA in a satellite system similar to the use proposed by LQSS.[4/] The use of CDMA achieves much greater spectral efficiency than the use of other multiple access techniques, and allows the system to achieve greater capacity. As stated in the Supplement (at 6):

> Developing this ability to increase capacity is a true breakthrough in the design of satellite communications systems, now incorporated into GLOBALSTAR. Through GLOBALSTAR's CDMA system, limited spectrum can be used to provide not only radio-determination but also voice and data services at a level of quality and reliability and with increased capacity over existing technology, thereby improving communications services available to the consumer.

Patents for technology which would contribute to the Globalstar system and allow LQSS to provide the proposed radio

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4/ Ellipsat objects to the supplemental materials on the ground that "Qualcomm did not invent CDMA." Ellipsat Motion, at 2. LQSS has not claimed a pioneer's preference on the basis of "inventing" CDMA. Rather, as Ellipsat admits, Qualcomm has developed an application of CDMA, and, as the patent and test result materials in the Supplement demonstrate, this particular application improves spectrum efficiency, thereby enhancing radio-based service. LQSS has also based its pioneer's preference request on other grounds. See LQSS Comments and Reply Comments on its pioneer's preference request, filed April 8 and April 23, 1992, respectively.

services were also included in the Supplement. Exhibit B (U.S. Patent No. 5,101,501), for example, describes the "soft handoff" technique which allows neighboring satellites to complete an undetectable handover of an ongoing call. Exhibit C (U.S. Patent No. 5,103,459) covers a unique method of combining pseudo-random binary codes with orthogonal binary codes, producing a reduction in mutual interference between users, resulting in greater capacity for Globalstar. The other patents and test materials are similarly related to use in Globalstar.

Ellipsat's attempt to denigrate the value of these materials as routine components required to implement any satellite communications system must be rejected as based on a flawed premise. Ellipsat Motion, at 2-3. The fact that a satellite system includes certain components or methods does not detract from the innovativeness of a new component or method designed to enhance the system or to improve efficiency. Ellipsat's proposed system may include only routine design features, but, as demonstrated in the Supplement, Globalstar incorporates innovative technology which enhances spectrum efficiency.

The patents included in the Supplement illustrate innovative technology which helps make the services to be provided by Globalstar possible. Not only do these patents show the novelty and innovativeness of Globalstar, they also demonstrate that the innovations were developed in the mid-1980s. This establishes LQSS as a true pioneer in the field of satellite systems which will provide personal mobile communications.

II. CONSIDERATION OF LQSS'S SUPPLEMENTAL MATERIALS WOULD NOT DISRUPT THE COMMISSION'S PROCESSES, BUT, RATHER, WOULD IMPROVE THE RECORD.

LQSS filed the Supplement to bring to the attention of the Commission and parties recently-issued patents which support its request for a pioneer's preference. As pointed out in the Supplement, several of the patents were issued after the dates for filing comments and reply comments on LQSS's request. Thus, they were not filed "grossly" out of time as TRW argues, because they were not available.

Moreover, given the importance of these materials to this proceeding, it would not be "substantially prejudicial to other parties and contrary to the public interest in orderly and meaningful administrative processes" for the Commission to consider the Supplement. TRW Letter, at 2-3. Such material would facilitate the Commission's evaluation of LQSS's request, and, without such material, the record would be incomplete. Consideration of the materials in the Supplement thus is in the public interest, and the objections of TRW and Ellipsat should be rejected.

III. ELLIPSAT'S SUGGESTIONS REGARDING THE "DERIVATION" OF GLOBALSTAR TECHNOLOGY ARE INACCURATE.

Although hardly deserving of response, LQSS cannot allow Ellipsat to make inaccurate suggestions about use of Ellipsat technology by Qualcomm without comment. See Ellipsat Motion, at 3-4. Dr. David Castiel, CEO of Ellipsat, did visit Qualcomm on or about March 26, 1991 at its headquarters in San Diego to discuss

the use of CDMA technology in the proposed Ellipso system and the beginning of a possible relationship between the companies. See Declaration of Dr. Irwin M. Jacobs (attached). As Dr. Jacobs recalls, Dr. Castiel initiated the visit. Id., ¶ 2. Dr. Castiel was invited to present a one-hour engineering lecture, which he did. Id. The information provided during Dr. Castiel's presentation and the discussion was generally available in Ellipsat's application. Id., ¶ 3. None of the technical aspects of Globalstar are derived from technology developed by Ellipsat for use in Ellipso. Id., ¶ 5.

The features of Globalstar which Ellipsat suggests are similar to Ellipso in Paragraph 7 of its Motion, i.e., phased deployment, worldwide coverage with minimum satellites, extremely simple transponder design, and technology to avoid crosslinks, were developed independently of any information which may have been available in Ellipsat's application for ELLIPSO and/or Dr. Castiel's presentation to Qualcomm. Id., ¶ 6. Qualcomm has been awarded U.S. Patent No. 4,901,307 (Supplement Exhibit A), of which Dr. Jacobs is a co-inventor, which covers operation of CDMA with a simple satellite transponder. Id.

All the patents included in the LQSS Supplement were applied for before March 1991. In any event, it defies common sense to allege that a LEO satellite system as complex as Globalstar could have been designed and developed and an application of over 500 pages written up in the short time between March 26, 1991 and June 3, 1992, when it was filed. Clearly, the development of the technical aspects of Globalstar preceded any meeting with Dr.

Castiel, and, for that matter, the filing of the Ellipsat application.[5/]

IV. CONCLUSION.

For the reasons discussed above, the Commission should deny the requests of TRW and Ellipsat to reject the LQSS Supplement, and find that the Supplement contains materials which support and justify LQSS's request. Based on the materials and pleadings

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5/ Ellipsat's constant harping that it was the first of the LEO applicants to file is pointless. See Ellipsat Motion, at 3. The Commission has already rejected the "first-to-file" theory of awarding pioneer's preferences. See Pioneer's Preference Order, 6 FCC Rcd at 3500 n.10 ("By focusing on the developer of the innovation, the Commission may not accord the first filer a preference because the first filer may not be the person who most deserves the preference"). And, Ellipsat has not shown that it was the first to develop any innovative service or technology. See Letter of Linda K. Smith, et al. to Donna R. Searcy (filed June 26, 1992) (requesting Ellipsat's supplemental materials be stricken from the record for failing to present evidence of any innovation).

submitted in this proceeding, the Commission should find that LQSS merits a pioneer's preference for Globalstar.

Respectfully submitted,

LORAL QUALCOMM SATELLITE SERVICES, INC.

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Its Attorneys

Dated: July 8, 1992

DECLARATION

1. I, Dr. Irwin M. Jacobs, am the Chief Executive Officer of QUALCOMM Incorporated, which is a shareholder in Loral Qualcomm Satellite Services, Inc. ("LQSS"). I am also Deputy Chairman of the Board of Directors of LQSS.

2. On or about March 26, 1991, Dr. David Castiel, Chief Executive Officer of Ellipsat Corporation, visited QUALCOMM, at its headquarters in San Diego, to discuss the use of CDMA technology in ELLIPSO and the beginning of a possible relationship between the companies. It is my recollection that he initiated this visit. I invited him to present a 1 hour engineering lecture during his visit, which he did. With his permission, a video tape was made of the lecture.

3. The information provided during Dr. Castiel's presentation and the discussion was generally available in Ellipsat's application.

4. I have read the "Motion to Strike" filed by Ellipsat on June 25, 1992, against the "Supplement to Request for Pioneer's Preference" filed by LQSS on June 12, 1992. In this "Motion to Strike," Ellipsat suggests that the GLOBALSTAR application is "derivative," and cites the availability of information about ELLIPSO from the application and Dr. Castiel's presentation.

5. Neither QUALCOMM nor LQSS has derived any technical features of GLOBALSTAR from the information provided by Dr. Castiel regarding ELLIPSO. Nor has any such information been incorporated into the GLOBALSTAR application, or any other description of the technical features of GLOBALSTAR filed with the Federal Communications Commission.

6. To the best of my knowledge, the features of the GLOBALSTAR system, including those listed in Paragraph 7 of Ellipsat's Motion to Strike, i.e., phased deployment, worldwide coverage with minimum satellites, extremely simple transponder design, and technology to avoid crosslinks, were developed independently of any information which may have been available in Ellipsat's application for ELLIPSO and/or Dr. Castiel's presentation to QUALCOMM. Indeed, QUALCOMM has been awarded U.S. Patent No. 4,901,307 dated February 15, 1990 (I am one of the co-inventors) that covers operation of CDMA with a simple satellite transponder.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information and belief.

Executed this 7th day of July, 1992.

Dr. Irwin M. Jacobs
Chief Executive Officer
QUALCOMM Incorporated

CERTIFICATE OF SERVICE

I, William D. Wallace, hereby certify that I have on this 8th day of July, 1992, caused copies of the foregoing "Response To TRW And Ellipsat Oppositions To Supplement To Request For Pioneer's Preference" to be served by hand delivery (as indicated with *) or by U.S. mail, postage prepaid, to the following:

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